

AMENDMENTS TO CLAIMS

Claims 1-21 (canceled)

Claim 22 (currently amended): A reinforced roof and pillar system for an automotive vehicle, comprising:

an automotive vehicle frame for a roof and pillar of the automotive vehicle, the frame having a roof rail with a plurality of wall portions defining a cavity therein, the roof rail extending longitudinally relative to the vehicle;

a skeleton member at least partially disposed within the cavity as defined by the roof rail, the skeleton member having a length and a longitudinal axis extending along the roof rail, the skeleton member comprising a first portion with a plurality of ribs and a second portion extending away from the first portion, the second portion also including a plurality of ribs, ~~both the first portion and the second portion including an~~ the skeleton member including a first outwardly facing surface opposing at least one of the wall portions and a second outwardly facing surface opposite the first outwardly facing surface wherein the first outwardly facing surface substantially extends along the entire length of the skeleton member; and

a structural foam material in sealing contact with the skeleton member and at least one of the plurality of wall portions, wherein;

- i) at least two of the plurality of ribs of the first portion are in spaced apart opposing relation to each other; and
- ii) the structural foam material sealingly contacts the first outwardly facing surface along substantially the entire length of the skeleton member and the structural foam material sealingly contacts the second outwardly facing surface along a substantial portion of the length of the skeleton member ~~outwardly facing surface of the first portion and the outwardly facing surface of the second portion.~~

Claim 23 (previously presented): A reinforced roof and pillar system as in claim 22 wherein the automotive vehicle frame includes a roof rail adjoining an A-pillar and

the first portion of the skeleton member is located in the roof rail and the second portion of the skeleton member extends into the A-pillar.

Claim 24 (previously presented): A reinforced roof and pillar system as in claim 23 wherein the second portion has a cross-sectional area taken generally perpendicular to the axis that is less than about fifty percent of a cross-sectional area of the first portion taken generally perpendicular to the axis.

Claim 25 (canceled)

Claim 26 (currently amended): A reinforced roof and pillar system as in claim 22 ~~25~~ wherein the first portion has a first cross-sectional area taken generally perpendicular to the axis at one end of the length that is less than about fifty percent of a second cross-sectional area of the second portion taken generally perpendicular to the axis at an opposite end of the length.

Claim 27 (withdrawn): A reinforced roof and pillar system as in claim 22 wherein the automotive vehicle frame includes a roof rail and wherein the first and second portions of the skeleton member are located in the roof rail.

Claim 28 (withdrawn): A reinforced roof and pillar system as in claim 27 wherein the first portion and the second portion are separated by a third portion, the third portion including a through-hole extending through a substantial amount of the third portion, the substantial amount being greater than half of the third portion.

Claim 29 (previously presented): A reinforced roof and pillar system as in claim 22 wherein at least two of said plurality of ribs in the first portion intersect with each other and the plurality of ribs in the first portion are substantially devoid of the foam.

Claim 30 (previously presented): A reinforced roof and pillar system as in claim 24 wherein the skeleton member and the structural foam material cooperatively seal the cavity to block passage of materials through the cavity

Claim 31 (withdrawn): A reinforced roof and pillar system as in claim 27 wherein the skeleton member and the structural foam cooperatively seal the cavity to block passage of materials through the cavity.

Claim 32 (currently amended): A reinforced roof and pillar system for an automotive vehicle, comprising:

an automotive vehicle frame for a roof and pillar of the automotive vehicle, the frame having a roof rail with a plurality of wall portions defining a cavity therein;

a skeleton member at least partially disposed within the cavity as defined by the roof rail, the skeleton member having a length and a longitudinal axis extending along the roof rail, the skeleton member comprising a first portion with a plurality of ribs and a second portion extending away from the first portion, the second portion also including a plurality of ribs, ~~both the first portion and the second portion including an~~ the skeleton member including a first outwardly facing surface opposing at least one of the wall portions and a second outwardly facing surface opposite the first outwardly facing surface wherein the first outwardly facing surface substantially extends along the entire length of the skeleton member; and

a structural foam material in sealing contact with the skeleton member and at least one of the plurality of wall portions, wherein;

- i) at least two of the plurality of ribs of the first portion and at least two of the plurality of ribs of the second portion are in spaced apart opposing relation to each other and the at least two of the plurality of ribs of the first portion both extend between the first outwardly facing surface and the second outwardly facing surface;
- ii) the first portion is contiguous with the second portion and the first portion and the second portion are substantially aligned with each other along the longitudinal axis; ~~and~~
- iii) the structural foam material sealingly contacts the first outwardly facing surface along substantially the entire length of the skeleton member and the structural foam material sealingly

- contacts the second outwardly facing surface along a substantial portion of the length of the skeleton member  
outwardly facing surface of the first portion and the outwardly facing surface of the second portion; and  
iv) the skeleton member is formed as a singular molded plastic component.

Claim 33 (previously presented): A reinforced roof and pillar system as in claim 32 wherein the automotive vehicle frame includes a roof rail adjoining an A-pillar and the first portion of the skeleton member is located in the roof rail and the second portion of the skeleton member extends into the A-pillar.

Claim 34 (previously presented): A reinforced roof and pillar system as in claim 33 wherein the second portion has a cross-sectional area taken generally perpendicular to the axis that is less than about fifty percent of a cross-sectional area of the first portion taken generally perpendicular to the axis.

Claims 35 - 38 (canceled)

Claim 39 (previously presented): A reinforced roof and pillar system as in claim 32 wherein at least two of said plurality of ribs in the first portion intersect with each other and the plurality of ribs in the first portion are substantially devoid of the foam.

Claim 40 (previously presented): A reinforced roof and pillar system as in claim 34 wherein the skeleton member and the structural foam material cooperatively seal the cavity to block passage of materials through the cavity

Claim 41 (canceled)

Claim 42 (currently amended): A reinforced roof and pillar system for an automotive vehicle, comprising:

an automotive vehicle frame for a roof and pillar of the automotive vehicle, the frame having a plurality of wall portions defining a cavity therein, wherein the automotive vehicle frame includes a roof rail adjoining an A-pillar, the roof rail extending longitudinally relative to the vehicle;

a skeleton member disposed within the cavity as defined by the roof rail and the A-pillar, the skeleton member having a length and a longitudinal axis extending along the roof rail and the A-pillar, the skeleton member comprising a first portion with a plurality of ribs and a second portion extending away from the first portion, the second portion also including a plurality of ribs, the skeleton member including a first outwardly facing surface opposing at least one of the wall portions and a second outwardly facing surface opposite the first outwardly facing surface wherein the first outwardly facing surface substantially extends along the entire length of the skeleton member; and

a structural foam material in sealing contact with the skeleton member and at least one of the plurality of wall portions, wherein;

- i) at least three ~~two~~ of the plurality of ribs of the first portion and at least three ~~two~~ of the plurality of ribs of the second portion are in spaced apart opposing relation to each other and the at least three of plurality of ribs of the first portion each extend between the first outwardly facing surface and the second outwardly facing surface;
- ii) the first portion is contiguous with the second portion and the first portion and the second portion are substantially aligned with each other along the longitudinal axis; and
- iii) the first portion of the skeleton member is located in the roof rail and the second portion of the skeleton member extends into the A-pillar;
- iv) the plurality of ribs of the first portion and the plurality of ribs of the second portion being substantially devoid of the structural foam material;
- v) the structural foam material sealingly contacts the first outwardly facing surface along substantially the entire length of the skeleton member and the structural foam material sealingly contacts the second

outwardly facing surface along a substantial portion of the length of the skeleton member.

Claim 43 (previously presented): A reinforced roof and pillar system as in claim 42 wherein the second portion has a cross-sectional area taken generally perpendicular to the axis that is less than about fifty percent of a cross-sectional area of the first portion taken generally perpendicular to the axis.

Claim 44 (previously presented): A reinforced roof and pillar system as in claim 43 wherein the skeleton member and the structural foam material cooperatively seal the cavity to block passage of materials through the cavity.

Claim 45 (previously presented): A reinforced roof and pillar system as in claim 22 wherein the outwardly facing surface of the first portion and the outwardly facing surface of the second portion are coextensive with the longitudinal axis and the structural foam material is coextensive with the outwardly facing surface of the first portion and the outwardly facing surface of the second portion.

Claim 46 (previously presented): A reinforced roof and pillar system as in claim 32 wherein the outwardly facing surface of the first portion and the outwardly facing surface of the second portion are coextensive with the longitudinal axis and the structural foam material is coextensive with the outwardly facing surface of the first portion and the outwardly facing surface of the second portion.

Claim 47 (previously presented): A reinforced roof and pillar system as in claim 44 wherein the outwardly facing surface of the first portion and the outwardly facing surface of the second portion are coextensive with the longitudinal axis and the structural foam material is coextensive with the outwardly facing surface of the first portion and the outwardly facing surface of the second portion.

Claim 48 (currently amended): A reinforced roof and pillar system as in claim 22 wherein the skeleton member ~~carrier~~ is formed as a singular molded plastic component.

Claim 49 (canceled)

Claim 50 (currently amended): A reinforced roof and pillar system as in claim 47 wherein the skeleton member ~~carrier~~ is formed as a singular molded plastic component.